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RÉMARKS

Applicant thanks Examiner for the detailed remarks and analysis. Claims 1, 3-6 and 14-26 are pending, claims 2, 8 and 10-13 have been cancelled, and claims 27-29 added.

Claim 26 was rejected as introducing new matter with the added claim limitation "said valve neck includes a hollow tube". Applicant disagrees; this limitation is properly supported in the description and drawings as filed. The specification includes the description that the valve neck 20 includes a "tubular portion 54". (Specification, paragraph 23). The definition of tubular is a hollow usually cylindrical body. (Please see attached definition). Further, the drawings illustrate that the valve neck 20 is hollow in the several views (Figures 1,2,4,and 5A). Accordingly, the specification includes proper support for the hollow limitation, and this rejection should be withdrawn.

Claims 1-9,14-20,25 were rejected as being anticipated by Welge (US 2,753,147). Claim 1 has been amend to require a valve neck comprising a hollow tube through which an actuation link extends. Amended claim 14 requires a linear element movable in a direction transverse to the axis of rotation. Welge does not include a valve neck through which an actuation link extends. Welge discloses an actuator supported on a plurality of cylindrical spacers (51), none of which comprise a tube through which an actuation link extends. Further, Welge does not disclose an actuator moving an linearly element transverse to an axis of rotation. Accordingly, claims 1 and 14 include limitation not disclosed or suggested by Welge and Applicant requests withdrawal of this rejection.

Claim 15 depends from claim 14 and requires that a valve neck disposed about an axis of rotation supports and spaces the electric actuator a distance from the exhaust pipe. Welge does not disclose a valve neck disposed about an axis or rotation. Instead, Welge discloses a plurality of cylindrical spacers, none of which that are disposed about an axis of rotation. Accordingly, this rejection should be withdrawn,

Claims 21, and 22 were as being obvious over the combination of Welge in view of Stark (US 4,373,330). Claims 21 and 22 depend an allowable base claim and are therefore also in allowable form.

Claim 23, 24, and 26 were rejected as being obvious over Welge and official notice by the Examiner. Claims 23, 24 require the electric actuator to include a first pull coil and a second hold coil. Welge does not suggest a first and second coil. Further, it is not well known in the art that an electric actuator includes a first pull coil and a second hold coil. An electric actuator typically

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includes only a single coil. Further, the use of an electric actuator including a first pull coil and a second hold coil to move an exhaust valve is not well known. Official notice of an actuator including a first pull coil and a second hold coil for use in with an exhaust valve is not proper. Applicant respectfully traverses Examiner's assertion of official notice and requests documentary evidence supporting this rejection. As official notice of an actuator having a first pull coil and a second hold coil is improper, Applicant requests withdrawal of this rejection. Further, claims 23 and 24 depend from allowable base claims and are therefore also allowable.

Claim 26 includes the limitation of a valve neck having a hollow portion. Examiner states that Jacque (RD 385031) discloses the limitations of claim 15. However, Jacque fails to disclose the required valve neck including a hollow portion. Claim 15 requires that the valve neck be disposed about an axis of rotation. Jacque does not disclose a valve neck disposed about an axis of rotation. Instead, Jacque discloses a guide tube (24) that is disposed perpendicular to the axis of rotation (Please see Figure of Jacque). Further, in Jacque, guide tube (24) does not support an electric motor. Instead, Jacque a grommet (28) is placed on an end of the guide tube (24). Further, Examiner state that a valve neck having a hollow portion is merely a matter of design choice. Applicant traverses this rejection as the valve neck provides unique heat shielding features that are not mere changes to an element shape, and requests that Examiner provide evidence supporting this assertion or withdraw the rejection. Further, claim 26 depends from an allowable base claim and is therefore also allowable. For these reasons, the rejection to claim 26 should be withdrawn.

Applicant has included new claims 27-29. Claim 27 requires an electric actuator including a linear element movable linearly transverse to an axis about which a valve plate rotates and a valve neck supporting the electric actuator a distance form the exhaust pipe that comprises a hollow tube through which an actuator link extends. Claim 28 requires that the valve neck define an air space surrounding the actuator link for insulating the electric actuator from heat generated by the exhaust pipe. Claim 29 requires that the valve neck is centered about the axis. The prior art does not disclose or suggest a linear actuator with a linear element that moves transverse to rotation of a valve plate or a hollow actuator tube supporting the electric actuator. Accordingly, claims 27-29 are in allowable form.

Applicant believes that the present application is in condition for allowance, and a Notice to that effect is earnestly solicited. Applicant believes that no additional fees are necessary, however,

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the Commissioner is authorized to charge Deposit Account No. 50-1482 in the name of Carlson, Gaskey & Olds for any additional fees or credit the account for any overpayment.

Respectfully submitted,

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CERTIFICATE OF MAILING

I hereby certify that the attached response is being deposited with the U.S. Postal Service as First Class Mailing, postage prepaid, in an envelope addressed to Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on April 1, 2005.

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tsar

in a czardom.
irch, n. a czarevitch.
irch, n. a czarevita.
irch, n. a czarevita.
irch, n. a czarina. m. n. czarism.

rein and n. czarist.

in n. a czarina.

ikin ito (chef'). n. [named after the
Gen. Tschef kin.] a rare titanian silicate
ring in velvety black, massive forma-7. [S. Afr.] an African dipterous insect family Tip-

and genus is and forms in the said of th Budanic landings of the Gold This. Africa.

inespeakers of any meaning magnined ref these languages.

The languages mained because T-shaped.]

Agollariess, cotton, pull-over shirt with very the course of the cotton.

incollariess, cotton, pull-over shirt with very their sleeves.

Families, see under T.

60 ps. n. [Japan.] the highly decorated guard of a Japanese sword.

This is, n. [Japan.] a genus of coniferous trees, the hemlocks, intermediate between Piccs, the spruces, and Abics, the firs. The six spredict have pendulous brunches, narrowly linear leaves, white underneath, and small brown constituted (decorated) at formerly a Chinaca

"topts.
mang'th (dzoong'dh), n. formerly, a Chinese
'stovincial governor; a vicercy.
This in chemistry, thallum.
Tharreg (twii'), n. [from Arab. tercq, to give

invives (twa). n. (from Arab. tereq, to give dp.)

1. a member of a group of Berber tribes of the western and central Sahara.

2. their Hamitic language.

1. their Hamitic language.

1. their Hamitic language.

1. a round, n. a lizard of the genus Hatteria.

1. a round, bread, open, wooden container, usually formed of staves and hoops fastened ground a flat bottom.

2. any similarly large, open container of metal, stone, etc., as for washing.

3. the contents of a tub, or a tub and its bottents.

otients.
4. a small cask holding about four gallons.
5. (a) a bucket or tram for carrying coal, fre, atc. in a mine; (b) the liming of a mining

'one, etc. in a more, ...
'ahaft.

d. a bathtub.

1. a bath in a tub. [Brit. Colloq.]

8. a slow-moving, clumsy ship or boat.

(Colloq.)

tub, v1. and v.i. tubbed, pt., pp.; tubbing, ppr.

1. to wash in a tub. [Colloq.]

2. to bathe (oneseif). [Brit. Colloq.]

tü'bā, n.; pl. tū'bāa, tū'bae, [L., a trumpet.]

1. in a n cie n t

Rome, a straight

Trumpet.

Rome, a straight war trumpet.
2. a large brass-wind instrument of the saxhorn group.
3. a powerful reed organ stop of 8-feet pitch.

Myde at 1 for-

organ stop of 8foot pitch.

thb'sic, n. 1. formerly, the act of
lining a gun with a
cylindrical tube of
wrought iron or
steel to increase the
power by decreasmg the caliber.

2. the insertion of a tube into one of the
passages of the body; intubation.

tub'si, o. relating to a tube, especially to a
Fallopian or a Eustachian tube.

tub'al, n. a Fallopian tube.

railogian or a Eustaeman tube.

Tü'bal-çāin', n. in the Bible, a worker in brast and iron: Gen. iv. 22.

th'āte, a. furnished with or having the shape of a tube; tubular.

tub'bing, n. [verbal noun of sub.]

1. the materials from which tubs are made.

2. the act of one employed in making tubs.

3, the metal or wooden lining of the shaft of a mine, usually cylindrical in form.
4. the act or process of bathing or of being bathed in a tub.

tub'by, a.; comp. tubbier; superl. tubbiest, 1. shaped like a tub.

shaped like a tub.

2. short and fat.

3. having a dull, wooden sound.

1. a hollow cylinder or pipe of metal, glass, ribber, ctc., usually long in proportion to its diameter, used for conveying fluids, etc.

2. an enclosed, hollow cylinder of thin, soft metal, fitted at one end with a screw cap and used for holding toothpaste, artist's paints, etc.

used for holding toothpaste, artists plants, etc.
3. an instrument, part, organ, etc. resembling a tube; as, a bronchial lube.
4. an electron tube.
5. (a) an underground tunnel for an electric ruliroad; (b) [Colloq.] the electric railroad itself.
6. a telescope. [Archaic.]
7. in botany, the lower, united part of a gamopetalous corolla or a gamosepalous calyx.

7, in botany, the lower, united part of a gamopetalous corolla or a gamosepalous corolla or a gamosepalous 8. in electricity, a tubular space bounded by lines of force or induction: also tube of force, tube of induction.

bronchial tubes; see under capillary.

electron tube; see under capillary.

electron tube; see under Eustachian.

Mulpighian tube; see under Mulpighian.

preumalitetube; a tube that uses comparessed into for carrying packets, lotters, etc. in a box fitted to the tube and containing a compariment for receiving whatever is to be carried.

sofety tube; in anatomy, a small part of the upper termination of the Eustachian tube; it is partly open, thus allowing a recoil of air from the tympanic awity is thus equalized from the pharyax.

saccongrid tube; a vacuum tube using a fine wire mesh grid or screen to reduce to a minimum the effective capacity between the electrodes.

vacuum tube; see following vacuum.

1the, ve.t. tubed, ot., ob.: tubing. opt. 1, to

titotrodes.

**vacuum tube; see following vacuum.

tito, v.r.; tubed. pt., pp.; tubing, ppr. 1. to
furnish with place in, or pass through a
tube or tubes.

2. to make tubular.

thbe cor'il, same as tubipore.
thbe fact, a locomotive process or ambulacral
sucker of an echinoderm.

tube/form, a. same as tubiform. tübe'-nõsed (nözd), a. having tublform nos-trils, sa certain birds. tDbe pläte, same as tube sheet.

tu'ber, n. [L., lit., a swelling or knob on plants.]

in anotomy, a tubercle. 3. in anatomy, a tubercic.
The bara'ce an, n.pl. [LL. from L. tuber, a tuber, and acces.] a family of fungi analogous among the sportidierous kind with the hypogoal fungi among the sportierous. All the genera, with a single exception, are strictly subterranean. The order includes the genus Tuber, the common truffles, and Rhisopogon, the white truffles.

the white truffies.

10 borni/ceous, a. pertaining or belonging to the order Tuberaces.

11 borni/ce(+th), n. [Fr., from L. tuberculum, double dim. of tuber, a swelling.]

1. a nodule or small prominence, especially a solid elevation of the skin larger in size than a papula.

2. in anatomy, a rough, rounded prominence on a bree.

2. in anatomy, a rough, rounded prominence on a bone.

3. any abnormal hard nodule; especially, the typical nodular lesion produced by the bacillus of tuberculosis, and consisting of a trunslucent mass, gray in color, made up of small spheric cells, which contain giant cells, and are surrounded by a layer of spindle-shaped connective tissue cells known as spitcheloid cells.

4. in botany, a little knob or rough point on the fronds of some lichens; also, a small tuber or tuberlike root growth.

5. in the Echinidz, a small ominence of the

'us, bull, brûte, tûrn, up; cry, myth; cat, machine, ace, church, chord; gem, anger, (Fr.) bon, as; this, thin; agure

berousness

body will which is immediately connected with the spines.

Darwinson tubercle; see under Darwinson. th'bergle barcil'ins, the bacillus causing tuberculosis.

th'bër-çie ba'cil'lue, the bacillus causing tuberculosis.

th'bër-çled (-kid), a. having tubercles; affected with tubercles; as, a tubercled lung.

tū-bër-çū-lār, a. IL. tuberculum, tubercle.

1. shaped like a tubercle; having the form and appearance of a tubercle.

2. full of tubercles; tuberculate.

3. in medicine, affected with or having tuberculous; tuberculous.

tuberculosis; tuberculous.

tuberculous; tuberculous, person.

Tū-bēr"cū-lār ri-ā'cū-ac, n.pl. [L. tuberculum, a tuberculc, and -epen, a large family of funginaving the condida borne laterally or torminally on hyphae. Growths of this class cause many plant diseases.

10.bār"cū-lār-ī-zū'tlon, n. infection with tuberculosis.

tū bercū lār īze, p.1; tubercularized, pt., pp.; tubercularizing, ppr. to infect with tubercu-

losis. 11. būr'cū liite, a. [LL. tuberculatus, from L. tuberculum, a tubercile.]
1. tubercular.
2. tubercular.

tū bēr'çū lā tod, a. characterized by, shaped like, or having a tubercle or tubercles.

tu ber cu la tion, n. the development of tu-

tu ber-qui ia uon, n. the development of tu-bercles.

tū bēr'eū iin, n. [luberculum and sin.] a sterile liquid preparation made from the growth products or extracts of a tubercle bacillus culture and injected into the skin as a test for the presence of tuberculosis.

tū bēr'gū ilī zū'tion, n. the formation of tu-bercles; the condition of becoming tubercled.

tū bēr'gū ilō-, [from L. tuberculum] a combin-ing form meaning (a) tuberculum; (b) tubercle bacillus; (c) tuberculosis; also, before u vowel, tuberculo.

th bū'cū ilō-cī'din, n. an albumose derived

tubercul-.

h-bcr*Col-lo-cl'din, n. an albumose derived from tuberculin by treating it with platinum chloride. It is used like tuberculin but is said to be free from the impurities of the latter.

tu bar'çu loid, a. [tuberculum and -oid.] like a tubercle.

furnish with place in, or pass through a tube or tubes.

2. to make tubular.

2. to make tubular.

3. to make tubular.

4. bar gū līose, a. tubercular.

4. bar gū līose, a. tubercular.

4. bar gū līose, a. tubercular.

5. bar gū līose, a. tubercular.

5. bar gū līose, a. tubercular.

6. bar gū līose, a. l. tubercular.

6. bar gū līose, a. l. tubercular.

6. bar gū līose, a. tubercular.

6. bar gū līose, a. la tubercular.

6. bar gū līose, a. tubercular.

6. bar gū līose, a. la tubercular.

6. bar gū līose, a. la tubercular.

6. bar gū līose, a. tubercular.

6. bar gū līose, a. la tubercular.

6. bar gū līose, a. līose, līose, a. līose gū līose, a. līose gū līose, a. līose gū līo

th. ber'cti lum, n. [L. tubercle.] a tubercle. th.ber'cti lum, n. [L. tuber, tuberis, a tuber, and 'ferous.] producing or bearing tubers. tu'bu'r.la, n. in physiological chemistry, a protected typical of the potato tuber.

of LL. subcrosa.

trideron, n. a shark [Obs]
tüberon, n. a shark [Obs]
tüberose, n. [an alteration o
from L. suberosus, knobby.] a
plant with a tuberosus root,
short, grasslike leaves, and a
lilinesous flower, the Polian-

snort, grasance leaves, and a lilinecous flower, the Polian-thes tuberose, specifically, in anatomy, a projection or elevation on a bone, having a rough uneven surface, to which muscles and ligaments are attached.

1. covered with knobby or wartlike lumps or prominences; knobbed.

2. in botany, consisting of or containing tubers; also, resembling a tuber.

tuberosity.

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